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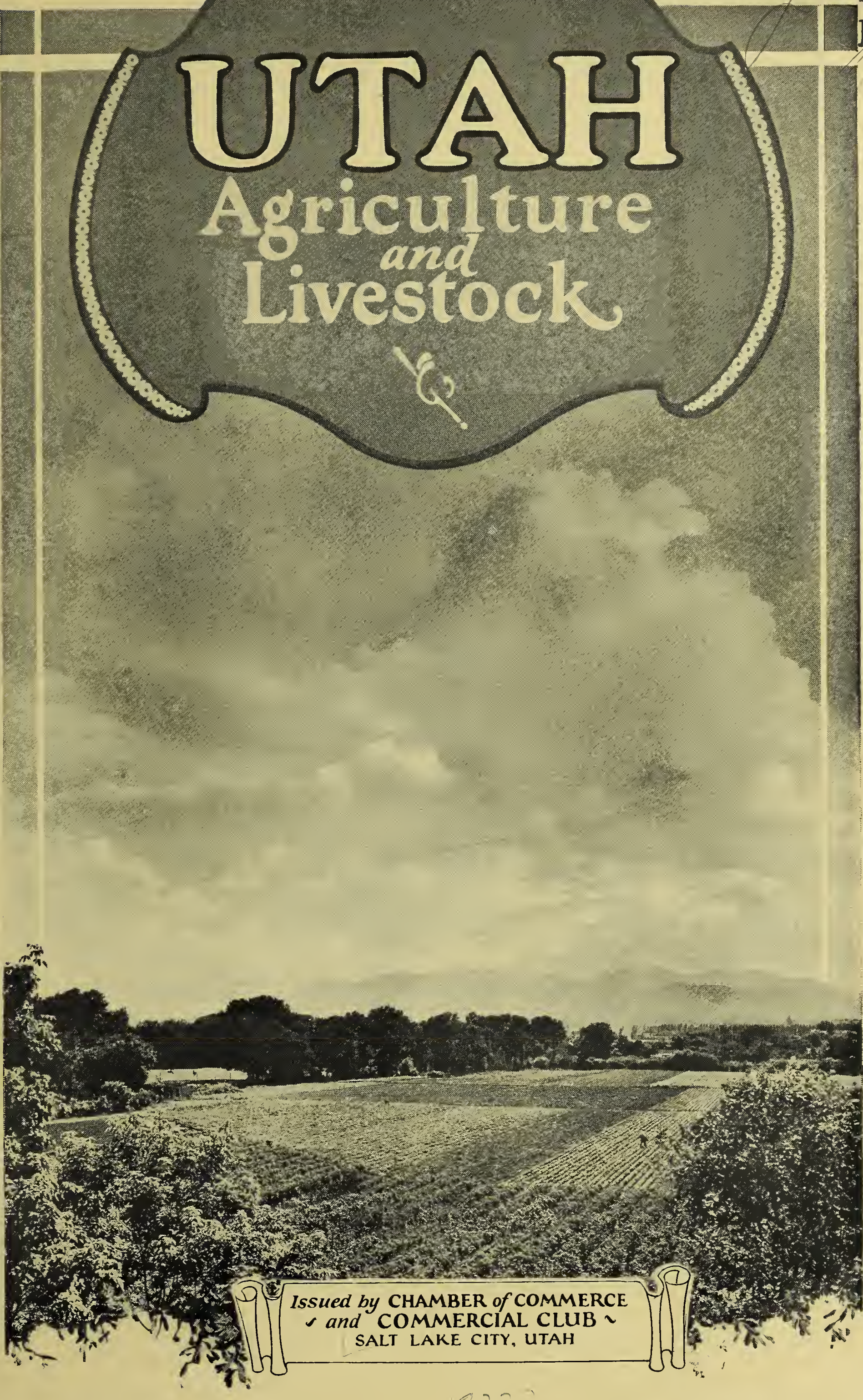
UTAH
Agriculture and Livestock



Issued by CHAMBER of COMMERCE
and COMMERCIAL CLUB
SALT LAKE CITY, UTAH

922

DESIGNED, EXECUTED AND PRINTED IN
SALT LAKE CITY

Agriculture and Livestock in Utah

SUGGESTIONS TO THE FARMER OR SETTLER COMING TO UTAH

COMPILED FROM OFFICIAL GOVERNMENT AND STATE REPORTS
AND OTHER AUTHENTIC SOURCES

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Issued by
AGRICULTURAL AND LIVESTOCK COMMITTEES
CHAMBER OF COMMERCE AND COMMERCIAL CLUB,
SALT LAKE CITY, ~~UTAH~~

Introduction

OUR purpose in this booklet is to give general information on agriculture and livestock in this state, and to touch upon the salient facts which would be interesting to prospective settlers.

We will be pleased to supply any additional information or data which you may desire. All inquiries addressed to the Agricultural and Livestock Department of the Chamber of Commerce and Commercial Club, Salt Lake City, Utah, will be answered promptly with complete information. This department is maintained by the business men of Salt Lake City and Utah to serve the entire intermountain territory.—The Editors.

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Agriculture

AGRICULTURE and Livestock occupy a substantial place among Utah's industries—Utah's climate and soil are particularly advantageous for farming and stock raising, and the possibilities for future development along these lines are very great.

Value of farm crops, 1922	$29,087,000
Value of livestock in Utah, 1922	42,861,279
Value of Utah manufactures, less cost of material	275,000,000
Value of Utah metal mines products, 1922	39,738,000
Value of Utah coal mined in 1922	15,000,000

Because of limited rainfall, a large percentage of the total acreage of Utah probably will be utilized as range land. The same may be said of vast areas comprising part of the extensive mountain ranges traversing the state, some of which are included in natural forest reserves. On these range lands are grazed approximately 2,000,000 sheep, 400,000 cattle, many horses, goats, and other types of livestock owned by farmers on adjoining irrigated lands. Reclamation and irrigation projects are making more Utah land productive every year, therefore this state offers wonderful opportunity for both man power and the investment of capital.

Perpetual Mountain-Stored Snow Waters Utah Valleys

The following table taken from the U. S. Census report shows the extent of the agricultural development of the state:

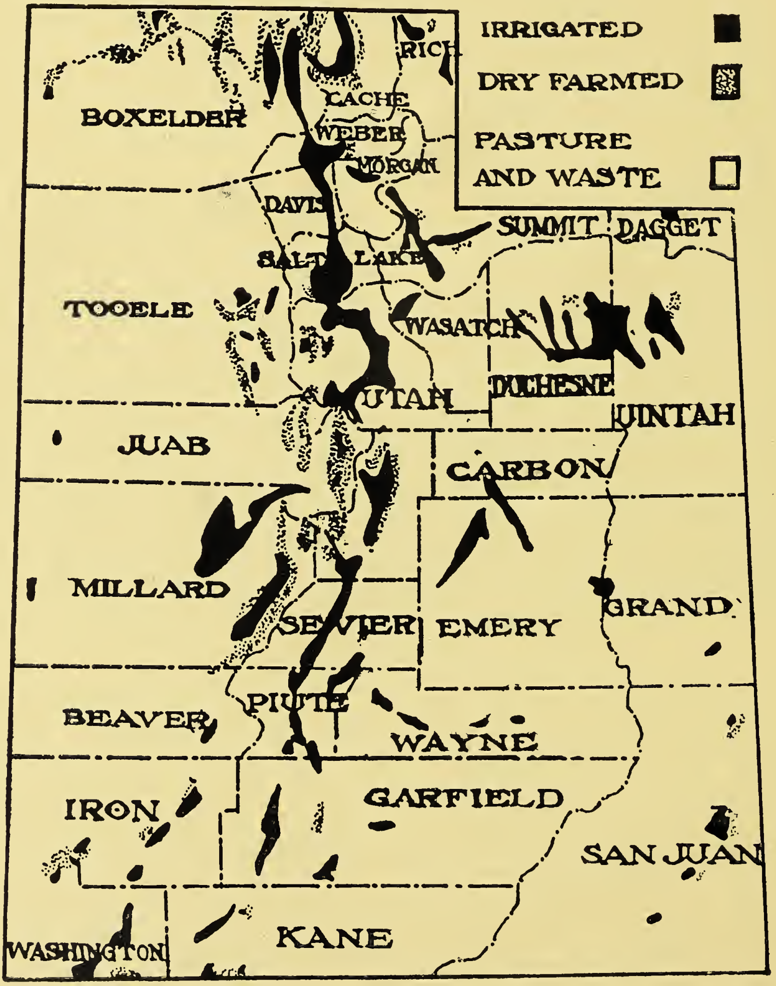
Number of farms 25,622
Approximate land area of the state, 52,597,769 acres

All land in farms	5,050,410 acres
Improved land in farms	1,716,380 acres
Woodland in farms	212,762 acres
Other unimproved land in farms	3,122,268 acres
Per cent of land area in farms	9.6
Per cent of farm land improved	34.0
Average acreage per farm	196.8
Average improved acreage per farm	66.8

Additional large areas in Utah remain to be developed by the utilization of flood waters, better use of the present supply of irrigation water, and by developing under-ground waters. It has been estimated that the present irrigated area of the state can be doubled.

In many specially favored sections the land can be developed by dry farming.

The following map shows the extent of the irrigated and dry farm lands of the state.



Crops

The following table gives a summary of some of the state's principal crops for 1921 and 1922, with their value:

					Farm Value December 1st		
CROP		Acres Harvested	Yield Per Acre	Total Production	Per Unit	Total Value	Value Per Acre
Corn	1922	32,000	24.4 Bu.	781,000	$ .85	$ 664,000	$ 20.74
	1921	21,000	24.6 Bu.	517,000	.76	393,000	18.70
Winter Wheat	1922	159,000	14.0 Bu.	2,226,000	.90	2,003,000	12.60
	1921	150,000	19.9 Bu.	2,985,000	.75	2,239,000	14.92
Spring Wheat	1922	135,000	25.6 Bu.	3,456,000	.90	3,110,000	23.04
	1921	126,000	26.3 Bu.	3,314,000	.75	2,486,000	19.72
Oats	1922	86,000	39.0 Bu.	3,354,000	.47	1,576,000	18.33
	1921	79,000	36.4 Bu.	2,876,000	.37	1,064,000	13.47
Barley	1922	18,000	35.0 Bu.	630,000	.55	346,000	19.25
	1921	16,000	32.0 Bu.	512,000	.48	248,000	15.36
Rye	1922	12,000	10.0 Bu.	120,000	.60	72,000	6.00
	1921	15,000	9.3 Bu.	140,000	.70	98,000	6.51
Potatoes	1922	21,000	179.0 Bu.	4,137,000	.40	1,655,000	78.80
	1921	15,000	161.0 Bu.	2,416,000	.85	2,053,000	136.85
Apples	1922			1,085,000	.80	868,000	
	1921			1,037,000	1.30	1,348,000	
Peaches	1922			885,000	.50	442,000	
	1921			763,000	1.71	1,305,000	
Alfalfa Seed	1922	19,000	6.3 Bu.	119,000	9.80	1,166,000	61.84
	1921	18,000	4.8 Bu.	88,000	6.00	528,000	28.80
Sugar Beets	1922	74,000	11.64 Ton	860,000	5.08	4,369,000	59.13
	1921	112,000	10.26 Ton	1,152,000	5.52	6,359,000	56.64
Tame Hay	1922	503,000	2.90 Ton	1,459,000	8.20	11,964,000	23.78
	1921	490,000	2.62 Ton	1,284,000	6.20	7,961,000	16.24
Wild Hay	1922	112,000	1.38 Ton	155,000	5.50	852,000	7.59
	1921	106,000	1.10 Ton	117,000	5.00	585,000	5.50
Totals Named Crops	1922	1,171,000				$29,087,000	
	1921	1,148,000				26,665,000	

Other important Utah crops are beans, dry peas, all kinds of fresh vegetables, every variety of berries and small fruits, melons, pears, plums and prunes, cherries, grapes and nuts.

Agricultural Products Exported

Utah not only supplies agricultural products for the citizens of the state, but exports foods fresh and canned to the Pacific coast and middle western states. The following table shows some of the fresh fruits and vegetables exported in 1921 and 1922:

1921	700 cars of peaches	1922	1100 cars
“	1074 cars of potatoes	“	1823 cars
“	735 cars of apples	“	584 cars
“	52 cars of onions	“	116 cars

"	31 cars of pears	"	64 cars
"	36 cars of mixed vegetables	"	83 cars
"	100 cars of tomatoes	"	329 cars
"	1 car of cantaloupes	"	32 cars
"	3 cars of celery (est.)	"	20 cars
	2732		4181

An increase of 1449 cars of exported fruits and vegetables is reported for 1922 over 1921.

Sugar Beets

Sugar beets form one of Utah's most profitable crops. In 1922, a crop of 860,000 tons was harvested from 74,000 acres—a yield of 11.64 tons per acre, the highest in the United States. Utah ranks fourth in the production of sugar beets in the United States.

For the beets raised in 1922 the growers received $4,369,000, or an average return of $59.13 per acre.

The sugar beet industry was started in Utah in 1890 at Lehi. Since then 17 other factories have been built.

Utah Farmers Grow Prosperous With Bumper Beet Crops

Contracts are made by the farmers with the beet sugar companies to grow the beets, and payment is made by a minimum price per ton at time of delivery, with an increased return per ton based on a sliding scale covering the varying sugar-content and the wholesale price of sugar. A bonus of $1.25 per ton above the minimum price has been

Alfalfa, Wheat and Oats are Relied Upon in Many Sections of the State for the Entire Farm Income —and They Never Disappoint.

paid the farmers for the 1922 crop, and it is expected that the wholesale price of sugar will warrant another bonus of similar amount on this same crop.

Much of the hand-labor in Utah is done by contract, the terms for this work usually being settled at the beginning of the season, and including thinning, hoeing, pulling, topping and loading. The cost varies from year to year with the available labor supply and the price of beets.

Alfalfa Seed Production

Utah produces one-fourth of all the alfalfa seed grown in the United States—it is the largest consistent producer of any state in the union.

For five years or more, according to the U. S. Bureau of Markets and Crop Estimates, there has been an average yield for the state as a whole, of 5½ bushels of alfalfa seed per acre. In 1922 the average yield was 6.3 bushels per acre. There has been a yearly average as high as 8.1 bushels per acre, and the lowest yearly average has been 4½ bushels per acre. In considering this average yield it must be remembered that included in the figures are some sections which are small seed producers, and that in the sections of the state where seed production is given the most attention the yields run much higher. A safe estimate for business purposes would probably be 8 to 10 bushels per acre, and a good yield which a competent farmer should expect to obtain would probably be from 12 to 14 bushels per acre. The following table shows the yield per acre of this crop in the most important alfalfa producing states:

	Yield per acre	
Utah	6.3	bushels
California	5.2	"
Idaho	5.0	"
Texas	4.7	"
Colorado	3.9	"
Wisconsin	3.4	"
Kansas	3.1	"
Illinois	2.8	"
Iowa	2.7	"
Nebraska	2.6	"
So. Dakota	2.6	"
No. Dakota	2.5	"
Minnesota	2.5	"

In 1922, according to the report of the U. S. Department of Agriculture, Utah produced 119,000 bushels of alfalfa seed, valued at $1,166,000.

Alfalfa seed is more easily marketed than alfalfa hay, and always finds a ready market at the distributing centers. The bulk of alfalfa seed grown in Utah is produced at an elevation of approximately 4300 feet to 5000 feet, and the crop endures quick and severe changes. Such conditions produce a hardy strain of alfalfa seed for which there is always a good demand.

Wheat

Most of the wheat produced in Utah is grown on dry farms, because it is found more economical to produce other kinds of crops on the more expensive irrigated land. In 1922 the state produced 2,226,000 bushels of winter wheat on 159,000 acres, and 3,354,000 bushels of spring wheat on 135,000 acres.

In the large wheat growing sections improved machinery is used in the way of tractors and harvesters, which make low overhead cost of operation. The acreage on dry farms where wheat is grown is larger than that of irrigated farms, due largely to harvesting methods. The value of winter wheat grown in Utah in 1922 was $2,003,000, and of spring wheat, $3,110,000.

Potatoes, Fruits and Other Crops

In 1922, according to U. S. Department of Agriculture figures, Utah led all commercial potato producing states of the union in the

New York Market Head Lettuce Yields Big Revenue

average production per acre, Utah's yield being 179 bushels per acre. The total crop of Irish or white potatoes grown in Utah in 1922 was valued at $1,655,000.

The soil of Utah is particularly adapted to the growing of potatoes, especially in the northern part of the state. The irrigated areas in the northern and central sections offer particular advantages for this product.

Orchard fruits including apples, peaches, plums, pears, cherries and apricots show a total harvest in 1922 of 70,692 cases. The apples and peaches grown in Utah compare more than favorably in color, flavor and firmness with any in the United States, and Utah tomatoes are recognized as the finest to be found in richness of color and flavor.

Organizations are now being perfected for the purpose of grading and marketing the orchard fruits of the state.

Canning Industry

Fruit and vegetable canning factories are flourishing in Utah. Their location in the heart of the producing areas is particularly advantageous in securing the highest quality pack, and in providing a ready market for farm products. Utah canned goods are marketed throughout the United States. Many of the factories contract with the farmers for their crops, and maintain experts in the fields to supervise the raising of the products.

Fruitful Farms Under a Utah Irrigation System

TOTAL PACK OF FRUITS AND VEGETABLES—1922

Commodity Packed	Cases No. 1	Cases No. 2	Cases No. 2½	Cases No. 10	Cases Pints	Cases ½ Pts.	Cases Total
Apples				9,620			9,620
Apricots		810		40,244			41,054
Cherries		85	28,093	3,660			61,838
Peaches			166	7,665			7,831
Pears			1,090	1,957			3,047
Strawberries		892		717			1,609
" Jam	1,604	1,098		277			2,979
Raspberries		187		98			285
" Jam		459			119		578
Apricot Jam		150					150
Misc. Jam			36				36
Gooseberries				60			60
Huckleberries				310			310
Tomatoes		141,296	590,505	47,328			779,129
Tomato Pulp	2,500	400	40,105				43,005
Tomato Catsup	2,700		5,853	33,465	20,411	2,431	64,861
String Beans		48,637		6,549			55,186
Peas		726,185		15,204			741,389
Pumpkin		500	7,333	4,474			12,307
Hominy			3,700	90			3,790
Kraut		8,170	29,978	7,346			47,394
Corn		1,500					1,500
Pork and Beans	7,600	9,600	6,900	125			24,225
Celery			204				204
Totals	14,404	939,969	713,963	209,189	20,530	2,432	1,900,487

Total factories in the state	37
Total acres in tomatoes	2,948
Total yield of tomatoes	30,023 tons
Total acres in peas	6,548

Proper Location and Cultivation Bring Big Corn Crops

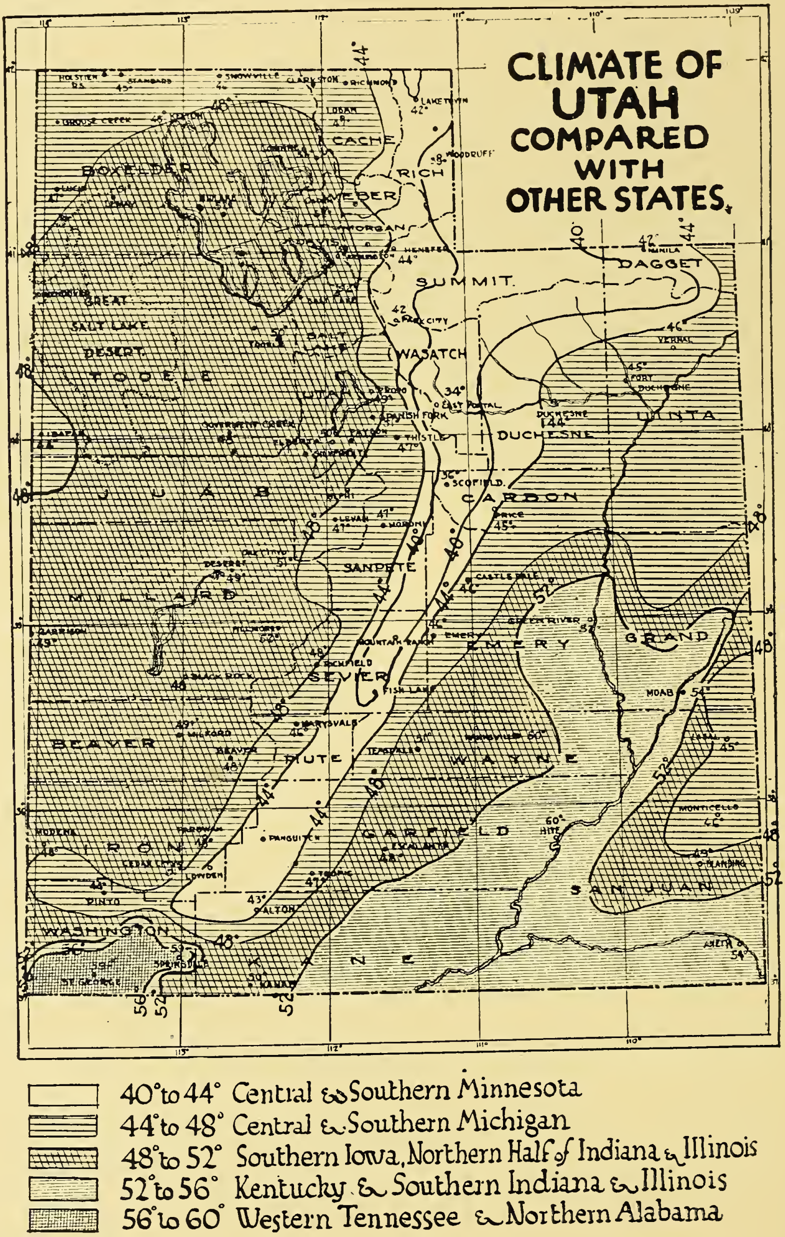
Total yield of peas	4,683 tons	
Total acres in beans	195	
Total acres in sundries	410	
Total Amount paid by Canners in Wages		$ 624,682.14
Total Amount paid by Canners to Farmers		978,210.81
		$1,602,892.95

There were 24 varieties of fruits and vegetables canned in Utah in 1922, and it is estimated that forty-five million cans were used. The largest pea cannery in the world is located at Morgan, Utah, and Utah peas and tomatoes are famous throughout the country for their superior quality.

Climate of Utah

The general climate of Utah is marked by a definite seasonal march of temperature. The mean annual temperatures are similar to those for Iowa, though the daily range between maximum and minimum values is greater in Utah, due to the altitude and general aridity. The average annual precipitation is about one-third the Illinois average, though moisture conditions vary from quite dry over the lower areas, particularly at some distance from the mountains, to copious deposits of rain and snow over the higher mountains.

The most populated sections are in Weber, Salt Lake, Utah, Cache and Sevier valleys, where the mean annual temperature ranges from 50 degrees to 52 degrees, the average daily maxima in July and August being 85 degrees or 90 degrees. A slight air movement across the slopes and foothill sections prevents many spring and autumn freezes, hence the length of the average growing season, between the latest killing frost in spring and the earliest killing frost in autumn


CLIMATE OF UTAH COMPARED WITH OTHER STATES.

Utah Celery Is Famous the Country Over

ranges from about 125 days over the bottom lands to about 175 days on the benches and slopes.

The agricultural sections of the Cache, Sanpete and Sevier valleys, and certain other Wasatch slope lands, have annual mean temperatures around 47 or 48 degrees. These districts are also season-ranging, from about 115 to 140 days. The average daily maxima for July and August are about 85 degrees in these areas.

Agriculture is practiced extensively in the more elevated valleys having mean annual temperatures of 42 to 44 degrees, such as the valleys of the upper Bear, Weber and Provo rivers, portions of the Uinta Basin, and the eastern Wasatch slopes. In these areas the average period between killing frosts is from 75 to 85 days, the average daily midsummer maxima being 82 to 85 degrees.

Utah winters are only moderately cold, except at the much greater altitudes, where temperatures occasionally reach 30 to 40 degrees below zero. The agricultural districts around Utah and Great Salt Lake, and in the Cache, Sanpete and Sevier Valleys have average daily winter minimum temperatures of 15 to 20 degrees, the lowest of record ranging from 15 to 20 degrees below zero.

Most of the agricultural areas receive from 12 to 18 inches of precipitation annually, though important irrigated sections of the Santa Clara and Pahvant valleys, the Uinta Basin, and a few other good farming sections east of the Wasatch mountains receive less than ten inches of precipitation annually. Many of the more elevated

Many Prosperous Farmers Started in a Very Modest Way

areas in western and extreme southeastern Utah receive precipitation in sufficient amounts and of suitable distribution to make dry farming practicable.

The average winter snowfall over the principal agricultural sections west of the Wasatch totals 50 to 55 inches, though places in the edge of the mountains receive from 65 to 80 inches. In the highest places of permanent habitation, the winters bring from 120 to 160 inches of snow. The solidified accumulation of snow in early springtime amounts from 100 to 120 inches in many of the higher drainage basins. The more arid parts of the state generally are grazed in winter where snow is suitably distributed geographically and chronologically to provide moisture for sheep.

Livestock

Grassy mountain reserves, an abundance of feed, alfalfa and pasture in Utah are contributing factors to the success of stock raising in Utah. The state in its entirety is particularly adapted to all branches of the livestock industry. Climatic conditions are ideal, and the marketing facilities are such that livestock can be shipped to eastern or western markets. Salt Lake City, on account of favorable location and railroad facilities is the main feeder for the newly established livestock market on the Pacific Coast.

The mountains of Utah provide the most extensive acreage possible, and because of the varying altitude the cover on mountain pas-

Wool and Mutton Staple Utah Products

Utah Alfalfa-fed Hogs Produce Succulent Table Pork ture varies from grama grass to heavy varieties of browse. These insure rapid growth and early maturity of livestock. Again, the mountain altitudes receive and hold the winter snows, which in due time and under seasonal influences provide soft, cool snow water so beneficial to livestock.

Utah livestock is in great demand because of its freedom from diseases that are specifically caused by internal parasites, bacteria, protozoa, etc.

Utah financial interests generally are interested in livestock production and support liberally all worthy financial enterprises.

Utah's shipping facilities for livestock are very good, and are being extended as rapidly as the demands require. Both Salt Lake City and Ogden have progressive and rapidly growing livestock markets.

NUMBERS OF LIVESTOCK ON UTAH FARMS & RANCHES JAN. 1
U. S. DEPARTMENT OF AGRICULTURE REPORT

KIND	1921		1922		1923	
Horses	127,000	$9,906,000	128,000	$8,960,000	128,000	$8,832,000
Mules	3,000	216,000	3,000	198,000	3,000	186,000
Milk Cows	82,000	5,740,000	87,000	5,307,000	90,000	5,670,000
Other cattle	425,000	12,665,000	433,000	11,431,000	455,000	12,467,000
Sheep	2,200,000	14,300,000	2,350,000	11,025,000	2,340,000	20,826,000
Swine	90,000	1,170,000	90,000	900,000	108,000	1,177,000
Total		$43,997,000		$37,821,000		$49,158,000

The Packing Industry

The packing houses of Salt Lake City in conjunction with the Salt Lake Union Stock Yards, comprise one of the most important industries of the state. The Salt Lake Union Stock Yards have at present a daily capacity of 8,000 cattle, 7,000 hogs and 40,000 sheep.

Receipts in Salt Lake City Union Stock Yards, during the past five years were:

	1918	1919	1920	1921	1922
Head of cattle and calves	70,892	62,321	61,080	56,304	91,151
Head of hogs	51,119	43,157	41,634	38,736	74,949
Head of sheep	389,254	347,392	340,493	300,325	475,378

The leading feature of the local stock yards in 1922 was the heavy movement of cattle and hogs from western Colorado which heretofore have always moved to an eastern market. Over 5,819 carloads of cattle came into Salt Lake City from outside the state in 1922.

Livestock slaughtered by Salt Lake packers during the past five years:

1918	1919	1920	1921	1922
130,439	121,226	117,322	104,120	168,218

Utah Livestock Statistics

Class	Per Cent of all Farms
Horses	90.1
Mules	4.5
Cattle	86.3
Beef cattle	36.0
Dairy cattle	71.6
Sheep	21.2

The Utah Dairyman Knows the Value of Select Herds

Dairying

Dairying, providing as it does a monthly revenue for the farmer, has become one of the important industries of Utah, and the possibilities for its future development are very great. Small farms intensely tilled are well adapted to dairying, and the fertile valleys of Utah provide ideal conditions for this industry. During the period of depression following the war, the dairying sections weathered the storm in the best financial condition.

The health of the cattle is one great factor in favor of the dairy business in Utah. It is probable that no dairy section in the country is so free from tuberculosis and other cattle plagues.

On January 1, 1923, dairy cattle in Utah numbered 90,000, according to the report of the U. S. Department of Agriculture. Dairy cows constitute 20 per cent of all cattle reported.

From Utah cream 4,207,071 pounds of butter were manufactured in 1922, valued at $1,497,254.85.

The principal dairy counties of the state are Cache, Salt Lake, Utah, Weber, Davis and Boxelder, with Millard and Wayne Counties coming up rapidly.

There are at present 14 condensed milk plants in Utah, all of which have been established since 1904. At present milk is collected from nearly 200 farms in Cache Valley and delivered to the condensories daily. Utah condensed and evaporated milk is sold throughout the country, and is famous for its richness and quality.

According to government reports there were manufactured in

Many Utah Farmers Have Small Herds of Beef Cattle

Utah in 1922 400,000 cases of evaporated unsweetened milk. Three carloads are shipped out of Cache Valley daily.

The cheese industry is rapidly coming into prominence in the West, and Utah affords excellent opportunity to men of experience

This Little Miss is Estimating Her Probable Profits

in this line. With abundant and cheaply produced feed, Utah is in a position to compete on very favorable terms with Wisconsin and other middle western and western producing sections. Utah's high altitude is particularly adapted to the curing of cheese.

Pacific Coast demand is constantly increasing and much cheese is moving west through Utah to these markets for export, as well as for local consumption. In 1922 Utah manufactured 1,727,270 pounds of cheese. More than 350 carloads or 7,000,000 pounds of butter and cheese are shipped out of Utah every year.

Officials of the state department of agriculture estimate that the dairy products of the state are worth approximately $5,000,000 annually.

Bees and Poultry

In recent tests Utah's honey has been found the finest in the United States—very light in color and delicious in flavor. The climatic conditions are ideal for the development of the bee industry in Utah, and the state has become world famous for this product.

In the high lands of the Uinta basin, conditions are exceptionally favorable for bee culture. The alfalfa flower and other flowering plant life there provide a nectar which imparts a richness of flavor to the honey, for which there is a wide market. There is also a large market for Utah wax. Those interested in bee culture will do well to correspond with the state bee inspector, who may be addressed at the State Capitol, Salt Lake City, Utah.

Utah does not begin to supply its own market with the poultry and eggs it demands. There are many large poultry establishments in the state—one in Utah county ranking among the largest in the United States. There is a splendid opportunity for poultrymen in the state, and an active state poultry association is promoting the industry with a constructive program.

Suggestions to Settlers in Utah

In Utah the area of a farm is not entirely significant—the most important question to be considered is the gross income that may be expected. If the farm is a going concern the purchaser would require from the seller a statement of sales covering the preceding five years. Dry wheat farms, under annual cropping, may need an area of 400 acres to yield a gross income of $4000, while a peach orchard of 40 acres may bring in the same amount of money.

If the land has never yielded a return or is to be put to some new use which will produce a different income, then the vital question is when will the new return begin, and the investment must be discounted accordingly.

The gross income may be estimated by obtaining the average yield and price for the principal Utah crops through a series of years from the Year Book published annually by the United States Department of Agriculture.

Location

Because of variations in production and variation in prices, wide differences in land value occur. Investment is not altogether de-

Many Localities Afford Great Stretches of Pasture

pendent upon geographical location or soil type. A good deal has already been accomplished in determining the best location in Utah for different types of farming through the experience of one or two generations of farmers. Certain localities have not yet been developed for lack of suitable transportation, inability to secure water for irrigation, or because the land has been held in uneconomic units.

Crop Specialization

Scientific rotation of crops under the direction of experts of the Utah State Agricultural College is greatly increasing the productivity of Utah lands. Certain sections of the state have become leaders in various farm products because of the nature of the soil and climate conditions. Detailed information about any particular section may be obtained by writing to the Agriculture and Livestock Department, Chamber of Commerce, Salt Lake City.

Expected Yields

The following table of expected yields, compiled by experts qualified by experience and observation to judge agricultural conditions here, and based on statistics covering a five year period, will serve as a guide to the prospective settler.

These figures indicate what yield may be expected from **average** land, farmed by a competent man:

TABLE OF EXPECTED YIELD PER ACRE

	Isolated Cases Unusually Low	Isolated Cases Unusually High	General Average	Conservative Probable Average	Liberal Possible Average
Alfalfa, tons	1	7.5	3.5	4.5	6
Apricots, bushel	30	180	60	100	120
Apples, bushels	200	1000	300	500	700
Barley, irrigated, bu.	20	110	40	60	80
Oats, irrigated, bu.	30	120	40	60	80
Wheat, dry land, bu.	3.5	18	7.5	9	12
Onions, bushels	50	300	75	125	200
Wheat, irrigated, bu.	17	75	25	30	40
Sugar beets, tons	5	35	10	12	16
Potatoes, bushels	25	500	100	200	300
Peaches, bushels	100	600	200	300	400
Cherries, boxes	10	80	20	30	50
Pears, tons	2	14	5	7	9
Grapes, tons	1	10	3	6	8
Tomatoes, tons	3	30	10	15	20
Peas, hulled, tons	1	7	3	4	5
Celery, crates	50	200	75	100	125

Soils

Utah soils are exceedingly productive. Some compare with the rich bottom lands of the humid regions. Where unfavorable conditions exist they are easily recognized. Alkali can be determined by chemical tests, or by noting the character of the vegetation and the

Water Skilfully Applied Brings Bounteous Yields

condition of the surface soil. Drainage conditions, texture and structure, and the presence of hardpan can be determined by examining the soil, boring in it with a soil auger. In examining the soil, the prospective settler should bear in mind that plants that would in a humid region send their roots two or three feet into the soil, will here have a root penetration of six to twelve or more feet.

Need of Water

The water supply or the possibility of securing water frequently determines the area on which certain crops can be grown in Utah. The settler should look carefully into everything that pertains to the extent, reliability, permanency, and cost of an irrigation water supply for his farm.

Mineral Fertilizer Abundant

Utah is particularly well situated for securing her own mineral fertilizers. The largest known American supplies of phosphate and potash are at her very doors and cheap hydro-electric power is at hand for the fixation of nitrogen. Also the vast coal fields make possible a cheap supply of ammonium sulfate. These available supplies of fertilizing materials are in time sure to reflect themselves in increasing crop production of the state.

Federal and State Farm Loans

The recent Farm Loan Act, which is now fully operative, furnishes the means of obtaining half the capital necessary to purchase a tract of land. The Farm Loan Act provides that loans may be made on real estate to the extent of 50 per cent of the appraised value, at such a rate that by paying 8 per cent per year, the principal, including interest, upon this half of the investment will be paid in full in twenty years. If a man has $10,000 he may purchase a farm worth $16,000 by obtaining a Federal farm loan of $8,000. The purchaser will have left $2,000 for procuring teams, implements and for living expenses. The loan may be cancelled by paying $320 semi-annually for twenty years.

Under the laws of the state of Utah, farm loans are made by the Land Commissioner from permanent school funds in his hands at 6 per cent per annum. Utah is one of the two states in the Union extending these borrowing facilities to farmers.

Homestead Lands

There are available in Utah a total of ten million acres of surveyed lands subject to entry as of July, 1921. Several thousand additional acres surveyed before July, 1922, are also available now. The following table gives an indication of this land:

County	Surveyed	Unsurveyed	Total	Character
Beaver	555,133	696,032	1,225,165	Generally arid, agricultural, mineral, grazing, mountainous.
Box Elder	1,189,436	548,136	1,737,572	Do.
Cache	1,754	123,149	124,903	Do.

An Example of Soil of High Fertility Under Irrigation

Carbon	452,987	20,163	473,060	Do.
Davis	23,136		23,136	Do.
Duchesne	147,226	37,169	184,396	Do.
Emery	557,291	573,297	1,130,588	Do.
Garfield	571,862	1,208,174	1,780,036	Do.
Grand	689,462	831,300	1,520,762	Do.
Iron	996,431	15,984	1,012,415	Do.
Juab	795,861	971,362	1,767,223	Do.
Kane	838,568	1,363,461	2,202,029	Do.
Millard	1,039,871	2,050,963	3,909,634	Do.
Morgan	1,967		1,967	Do.
Piute	102,638	77,596	180,234	Do.
Rich	235,096		235,096	Do.
Salt Lake	1,350	29,318	30,668	Do.
San Juan	895,462	1,705,635	2,601,097	Do.
San Pete	351,896	14,368	366,264	Do.
Sevier	402,691	38,479	441,170	Do.
Summit	53,968	7,169	61,137	Do.
Tooele	1,321,763	1,867,321	3,189,084	Do.
Utah	25,369	336,621	363,990	Do.
Wasatch	17,631	1,250	18,881	Do.
Washington	486,692	45,621	532,313	Do.
Wayne	339,681	718,076	1,057,757	Do.
Weber	59,896		59,896	Do.
Total	12,158,828	13,282,644	25,441,472	

Daggett	134,755		134,755	Rough, mountainous lands mostly, mineral in character, non-mountainous lands suitable for grazing or dry farming.
Duchesne	98,773		98,773	Do.
Uintah	622,035	704,720	1,326,755	Do.
Wasatch	32,688	3,740	36,428	Do.
Total	888,251	708,460	1,596,711	
State Total	13,047,079	13,991,104	27,038,183	

Persons interested in securing information relative to homestead or vacant public lands should communicate with the United States Land Registrars at Salt Lake City or Vernal, Utah. Interested persons should also write to the Department of Interior, Washington, D. C., and secure circulars No. 541 and No. 765 issued by the General Land Office. These two pamphlets give all the necessary information and suggestions to homesteaders and persons desiring to make homestead entries.

Roads

There has been more money spent per capita for building and maintaining roads in the state of Utah in the last five years than in any other state. The hardsurfaced roads of Utah make it possible for large amounts of commodities to move to their destination by auto truck, the main truck sections in the state being adjacent to Salt Lake City and Ogden. The excellent roads are a big factor in enabling the truck farmer to realize big returns on his produce.

In every direction from Salt Lake City there are paved highways to the farming sections. Paved roads extend north from Salt Lake City 79 miles, south 90 miles. There is a total of over two hundred and fifty miles of completed hardsurfaced roads in the state of Utah and over twenty-six hundred miles of graded and graveled roads.

Transportation Facilities

Utah is served by seven great railroads radiating from Salt Lake City in every direction. In 1922 the state had approximately 3000 miles of track on main line railroads, both electric and steam, and 1000 miles of side track, with a total valuation of $90,000,000.

Utah is served by seven railroads: The Denver & Rio Grande Western, to Denver and the East; the Salt Lake, Garfield and Western, serving Utah points; Los Angeles & Salt Lake Route (U. P.), serving Nevada and California; Oregon Short Line (U. P.), serving Idaho, Montana, Northwest, Omaha and the East; Western Pacific, serving Nevada and California; Salt Lake & Utah (electric), serving Utah, and the Bamberger Electric, serving Utah.

Utah's two electric railroads extend 200 miles north and south through the state, and reach 74.4 per cent of the population.

Through transportation facilities the farmer can ship by rail 500 to 1000 miles, and therefore really has access to unlimited markets. The ordinary limit of agricultural production is the market, and the farmer in Utah is really limited to his production only by his capacity to produce.

Only within the past few years has Utah really begun to realize her possibilities. In 1922, 1,600 carloads of potatoes were shipped from the Salt Lake valley, this being an increase of several hundred per cent over 1918. Utah Sweet Spanish and Gibraltar onions traveled far into the Eastern section of the United States in 1922 at profitable prices to producers. It is estimated that Utah will produce over 100 carloads of commercial strawberries in 1923. Utah celery is pronounced by prominent authorities the best grown in America.

The automobile and the construction of the hard-surfaced roads have increased the transportation facilities in Utah. The concrete roads are feeders for the railroads and act as feeders reaching out into the various communities to bring the produce to the larger arteries of commerce.

Utah High Spots

Area, Square Miles	84,900
Density of population, per square mile	5.5
Assessed valuation 1921	$688,025,286
Population 1920	449,396
Population 1910	373,351
Ten year increase	24%
Number of head of cattle and sheep	1,922,401
Valued at	$23,547,200

Summary

Utah invites investigation and inspection of her opportunities for the real "dirt" farmer—many of her new irrigated areas, particularly in southern Utah, offer land as rich as could be desired and with splendid water rights at prices and terms unparalleled in other regions. To the man seeking a combination of good land, adequate water for irrigation and domestic and livestock purposes, Utah offers her resources. All such are invited to correspond freely with the undersigned—

The truth and the truth only will be furnished—

For additional information call or write Agriculture & Live-stock Department, Chamber of Commerce and Commercial Club, Salt Lake City, Utah.

Agriculture *and* Livestock